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## A STUDY OF TUBERCULOSIS IN A RURAL COUNTY

C. R. KROEGER, M.D., Health Officer, and MARGARET BERNARD, R.N., Director of Public Health Nursing, Mendocino County Department of Public Health

Mendocino County Health Department was established legally on January 16, 1952, after community interest was aroused by a county-wide survey made jointly by the California Medical Association, the California Tuberculosis Association, and the State Department of Public Health. By July 1, 1952, the preliminaries of organizing the office were completed. The staff of the department consisted of the health officer, one director of public health nursing, two staff public nurses, one director of sanitation, one staff sanitarian, and two clerks. One staff public health nurse position remained vacant until October, 1952.

The 1950 census gave Mendocino County's population as 40,854 persons. They live in an area of 3,510 square miles—half timberland, and less than 5 percent under cultivation. The population tends to be grouped in five areas because of the topography of the county.

At the time of the formation of the health department, tuberculosis case finding facilities were limited, and case reporting was extremely poor. Adequate hospital facilities were lacking, although the county was paying for hospitalization of two patients at private facilities. There had been no official, organized tuberculosis control program, and a number of active cases were living in communities with no public health supervision.

### THE PROBLEM

The major problem confronting the staff was that of locating cases of tuberculosis throughout the county. A list of cases reported to the State Department of Public Health during the period of 1947-1951 was reviewed, but many of those named had died and

lack of complete addresses made the list practically worthless.

The Mendocino County Tuberculosis Association provided the names of several suspects found in surveys of previous years. Other cases were discovered as a result of correspondence received from other agencies and health departments, and as public health nursing services to families developed, additional cases were uncovered by the district nurses.

Development of services and hospitalization for tuberculous persons encouraged many individuals to appeal directly to the department for assistance in the treatment of their disease. Private physicians were consulted regarding the present status of their tuberculosis patients, and their recommendations for continued care.

Prior to the organization of the health department, the tuberculosis association, the county welfare department and various school nurses had been performing certain limited functions in the control of tuberculosis. During the last half of 1952, the health department and the welfare department made arrangements through the board of supervisors to provide funds for adequate hospitalization for patients, and for X-ray examination of contacts in the follow-up program of the health department. As these services became available, the bulk of the activities of the tuberculosis control program were assumed by the health department.

### THE CASE REGISTER

An increase in the case load made it necessary to establish definite policies and institute new procedures, including an improved method of record keeping. District nursing records

were adequate in the area, but centralized information was necessary for administrative purposes. As a result of this need, a simplified case register was set up in the main office. All pertinent information received is now recorded on the case register before reports are forwarded to the district office. The case register assists staff public health nurses in their follow-up of cases and provides readily accessible statistical data for budgetary projection.

Toward the end of 1953, we realized we had merely scratched the surface in the tuberculosis case finding and control problem.

A deficit in the 1952-53 budget of \$25,000 for tuberculosis hospitalization created an analytical problem. The board of supervisors sought information for the projection of an over-all program. Parents and educators were alarmed at the number of infected children. The Mendocino County Tuberculosis Association needed facts for health education materials, for case finding expenditures and for budgetary planning within their funds. A staff conference of the Mendocino County Health Department revealed that the case finding program was successful, but all criteria of measurements for the results did not fit our localized situation. The need for a study of the problem was plain.

Personnel from the Bureau of Records and Statistics and the Bureau of Public Health Nursing of the State Department of Public Health were called upon to assist in a statistical study of the problem. This study was planned to provide a means of bringing definite facts to such groups as the county board of supervisors and the medical society, as well as to the general public. In addition, such facts would offer an excellent guide for future program planning and for joint planning of surveys with the tuberculosis association.

#### CASE STUDIES

When the study was completed, the total case load numbered 105, as compared with the 17 cases known when the health department was organized. Of this total, eight were discovered as a direct result of examinations of contacts. Fourteen families were found in which there was more than one case. One family of 10 had six active cases,

five of whom were hospitalized for a period of several months. The first case discovered in this family was a 12-year-old girl, who was reported by the school department as having almost continuous absenteeism because of illness. A home visit revealed that the girl had a productive cough, general malaise, loss of weight and other symptoms indicating possible tuberculosis. Past history showed contact with an active tuberculosis patient outside the home over a period of several months. Examination established a diagnosis of far advanced, bilateral tuberculosis and the child was hospitalized immediately. The parents were X-rayed, and other children in the family tuberculin skin tested. X-ray of the father showed minimal tuberculosis, and he was hospitalized about two weeks after his daughter was admitted. All children had positive reaction to the skin test. Three were found to have adult-type infection and were admitted to the sanatorium. During the investigation it was learned that one of the younger children had been in the county hospital the previous year with a diagnosis of tuberculous meningitis.

Another case to illustrate the high incidence of infection in children is a family of six, four of whom were diagnosed as active tuberculosis. In this family, the father was found to be an active case three years before, and had placed himself under treat-

ment in a sanatorium. Soon after his admission, his younger son became acutely ill, was diagnosed as tuberculous meningitis, and died before adequate treatment could be initiated. The father left the sanatorium shortly after his son's death, against medical advice, and returned to work. After the organization of the health department, this family was reported by neighbors and an investigation was started. The father denied having possible active tuberculosis, and refused medical assistance. About one month after investigation was started the second younger boy became ill. He was diagnosed as tuberculous meningitis and was rushed to the sanatorium in a very serious condition. Exactly 22 days after this occurred the father had a severe hemorrhage and was admitted to the sanatorium with a diagnosis of far advanced, bilateral pulmonary tuberculosis. X-ray examination of the mother and other children showed one other boy to be recovering from a primary infection. This family is now at home receiving convalescent supervision under the direction of the medical director of the sanatorium.

#### A UNIQUE PATTERN

The population distribution by age and sex of Mendocino County is not strikingly different from that of the State, however, the unique pattern of the tuberculosis cases was dramati-

TABLE 1  
Reported Cases of Tuberculosis, All Forms, by Age and Sex—California, 1952,  
and Mendocino County, 1952, 1953

(By place of residence. Exclusive of military and state institution cases)

Age	CALIFORNIA Cases of Tuberculosis, all forms					MENDOCINO COUNTY Cases of Tuberculosis, all forms				
	Total	Number		Percent		Total	Number		Percent	
		Male	Female	Male	Female		Male	Female	Male	Female
Total.....	7,903	5,145	2,755	100	100	105	68	37	100	100
Under 1 year.....	35	19	16	b	1	—	—	—	—	—
1-4.....	161	87	74	2	3	6	4	2	6	5
5-14.....	185	80	105	2	4	11	7	4	10	11
15-24.....	1,013	471	542	9	20	17	2	15	3	41
25-34.....	1,575	813	762	16	25	14	10	4	15	11
35-44.....	1,460	922	538	18	20	19	13	6	19	16
45-54.....	1,346	1,056	290	20	11	16	16	—	24	—
55-64.....	1,129	920	209	18	8	6	6	—	9	—
65 and over.....	988	770	218	15	8	13	7	6	10	16
Unknown.....	8	7	1	b	b	3	3	—	4	—

a Includes 3 cases with age and sex not stated.

b Less than 1.

Source: Mendocino County Health Department Records.  
State of California, Department of Public Health, Morbidity Records.

TABLE 2

## Population Distributed by Age and Sex—California and Mendocino County, 1950

Age	CALIFORNIA					MENDOCINO COUNTY				
	Total	Number		Percent		Total	Number		Percent	
		Male	Female	Male	Female		Male	Female	Male	Female
Total.....	10,586,223	5,295,629	5,290,594	100	100	40,854	22,033	18,821	100	100
Under 1 year.....	217,647	110,985	106,662	2	2	841	429	412	2	2
1-4.....	881,465	449,001	432,464	8	8	3,462	1,786	1,676	8	9
5-14.....	1,500,460	762,693	737,767	14	14	6,470	3,342	3,128	14	16
15-24.....	1,402,914	716,872	686,042	14	13	4,922	2,548	2,374	12	13
25-34.....	1,812,095	893,810	918,285	18	18	6,042	3,217	2,825	15	15
35-44.....	1,626,807	818,835	807,972	15	15	5,976	3,335	2,641	15	14
45-54.....	1,277,505	651,828	625,677	12	12	5,002	2,574	2,128	13	11
55-64.....	972,325	482,597	489,728	9	9	4,224	2,380	1,844	11	10
65 and over.....	895,005	409,008	485,997	8	9	3,915	2,122	1,793	10	10

Source: U. S. Bureau of the Census, U. S. Census of Population, Part 5, California, Chapter 13.

cally illustrated when it was shown that 41 percent of the female cases fell in the 15-24 year age group. This is not typical of the State as a whole, for the largest number of female cases in the State occurs in the 25-34 year age group and represents 25 percent of the total female cases. Among males, the peak occurs in the 45-54 age group in both California and Mendocino County.

Infected children presented an alarming situation. Of the 18 cases under 15 years of age, only six were reported as primary-type tuberculosis. Seven had adult-type disease (three far advanced), and four had tuberculous meningitis. In 16 of these cases the source of infection proved to be an adult member of the family, who was also placed under treatment.

## HOSPITALIZATION

Hospitalization prior to 1952 had been mainly through such facilities as Veterans Administration, Indian Service and private sanatoriums. In July, 1952, 14 cases were being cared for through those agencies and the private facilities. After the county board of supervisors provided hospital facilities for Mendocino County residents, the number of persons hospitalized showed a continuous increase until July, 1953, when a peak was reached with 47 persons under hospital care. The majority of these admissions were to Cascade Sanatorium, under contract with the county. However, admissions to other facilities continued about the same as in previous years. During the last half of 1953, discharges slightly ex-

ceeded admissions, but the number of patients hospitalized still continued to remain high. From this experience we can anticipate that the rate of new admissions will rise again following a survey planned for the near future.

TABLE 3

Number of Tuberculosis Patients in Hospitals, Admitted to Hospitals, and Discharged From Hospitals—Mendocino County, July, 1952, Through December, 1953

Month	Patients in hospitals	Patients admitted	Patients discharged
July, 1952.....	14	NA	NA
August.....	25	11	--
September.....	28	3	2
October.....	30	4	4
November.....	31	5	2
December.....	34	5	0
January, 1953.....	41	7	1
February.....	45	5	2
March.....	46	3	3
April.....	44	1	7
May.....	42	6	6
June.....	45	9	2
July.....	47	4	3
August.....	47	3	6
September.....	43	2	4
October.....	41	2	5
November.....	38	2	4
December.....	38	4	2

Source: Mendocino County Health Department Records.

Hospital facilities at Cascade Sanatorium, Redding, have proved satisfactory, and will continue to be used until such time as adequate facilities are provided locally.\* In spite of the great distances from home, the patients have accepted the situation and most of them have stayed until

\* On July 28, 1954, Mendocino County was allocated \$276,040 in federal and state funds for the construction of a 42-bed tuberculosis wing.

treatment is complete and medical approval given for discharge. Since the time the contract was signed, only two patients have left without medical approval. In both of these cases, the patients have requested continued medical supervision on an out-patient clinic basis.

A very satisfactory procedure has been worked out for patient admission to the sanatorium. All cases needing hospitalization are referred to the health department for clearance on the basis of the reporting physician's diagnosis, and approval for admission is obtained from the medical director of the sanatorium. In addition, all patients or families are referred to the County Welfare Department for interview and at this point insurance benefits, unemployment benefits, and other details of a financial nature are worked out, as well as details of assistance to families as indicated.

Liaison between home, sanatorium, county welfare department, private physicians, the board of supervisors and the health department has been very satisfactory. Public health nurses make regular visits to the sanatorium to talk with patients, discuss patient status with the medical director, deliver messages or packages from home, and generally to serve as intermediary between all interested persons and agencies. In addition, when necessary, patients are transported to the sanatorium by health department personnel.

## OUT-PATIENT CLINIC

An outgrowth of the contract with Cascade has been the development of a chest clinic for patients discharged from the sanatorium. As more persons were discharged after hospital care, it became apparent that follow-up services would be needed. Arrangements were made with the medical director of the sanatorium to visit Mendocino County once a month to give the necessary medical supervision. Up to this writing there has not been a broken appointment. X-rays, blood work and medication are ordered as indicated and patients are instructed in their activity and work programs. Only one patient has been returned to the sanatorium for relapse because of failure to follow directions. The clinic has expanded services gradually to include consulta-



tion for private physicians, X-ray reading of suspicious cases, and supervision of patients previously treated elsewhere who have requested follow-up through local facilities.

#### SUMMARY

Mendocino County is faced with problems that are not ordinarily found in areas where a tuberculosis control program has been in effect for a period of years. Situations prevalent over the entire State 25 years ago are now prevalent in this area, as in other rural areas that have not had adequate health services. With widespread health department activities, citizens have become more aware of the problem they must face, and the county board of supervisors has already made plans for construction of adequate tuberculosis facilities within the county. Case finding activities will continue to increase for several years. We realize that diligent search for source cases is basic to a tuberculosis control program. The incidence in children and young people in Mendocino County places program priority on preventing reinfection in this age group once these cases have been found and treated.

### TB Death Rate Shows Rapid Decline—Case Rate Slight Decline

The tuberculosis death rate in California continued its rapid decrease in 1953. The Bureau of Records and Statistics of the State Department of Public Health reports 1,378 deaths, or a rate of 11.4 per 100,000. This is a decrease of 26.5 percent from 1952 and 63.9 percent from five years ago.

The death rate for tuberculosis in the Nation followed a similar downward trend, and is estimated at 13.3 cases per 100,000 in 1953.

Despite this pronounced and continued decrease in the death rate from tuberculosis, the number of new cases reported each year continues to show only a very moderate decline. The actual number of tuberculosis cases reported in California was slightly larger in 1953 than that in 1952, but figured on a population basis, the case rate showed a slight decline.

The dramatic advances in the surgical and medical treatment of the disease have had a great deal to do with

the rapid decline in the death rate. Tuberculosis has been changed from a "killing" disease to a chronic disease. Tuberculosis control has shown its effectiveness in gradually limiting the number of cases of tuberculosis by extensive case-finding programs and public health education, but its effectiveness needs to be further developed to reduce this chronic disease to a minimum.

### Typhoid Outbreak in South Mobilizes Health Agencies

A food-borne outbreak of typhoid in Los Angeles caused the death of an 11-year-old boy, nine other cases of typhoid, and precipitated thorough and prompt action on the part of local, state and national public health agencies to prevent secondary outbreaks elsewhere.

The main dish at a wedding reception, attended by more than 200 people, had been prepared by a typhoid carrier who was entirely ignorant of the fact that she is a carrier. The boy who died and two other members of his family became ill with typhoid early in July after attending the reception June 26. Five other guests had suspected cases at that time. Health department investigation led to the supposition, later proved correct, that a carrier had contaminated the food served at the reception.

No list of guests was available so health department investigators had to trace all those who had attended. The group had scattered, and it was rumored that one had gone as far as Hawaii. This was a false rumor, but the 10-to 12-day incubation period for typhoid makes it possible for potential victims to have traveled far and to have started secondary infections wherever they went. This made it necessary for other local and for state and national public health agencies to set machinery in motion to prevent this.

Two hundred thirty-five persons who were at the reception have already been interviewed, and so far it seems that none got further away than Oakland. That no secondary outbreak has occurred is due mainly to the prompt action taken by the Los Angeles Health Department in warning the wedding guests of their pos-

sible exposure to typhoid and in alerting physicians to its presence in the community.

The detection of the suspected carrier in Oakland was the result of close collaboration and expert investigation by the Oakland and Los Angeles City Health Departments and the State Health Department Laboratory.

Preliminary laboratory tests established that this woman, who had the disease in 1944, was still harboring typhoid organism. Her name will now be added to the State Health Department's confidential register of known typhoid carriers. There are now about 400 names on that list.

It is estimated that about 3 percent of those who have the disease become carriers. If the carrier stage persists for a year it usually becomes a permanent condition. In spite of the use of antibiotics and even surgical removal of the gall bladder, most carriers remain carriers for the rest of their lives, and constant vigilance is required to keep them from spreading the disease.

All the known carriers in California are kept under continuous surveillance and are given instruction and demonstrations by health department personnel to help them assume the grave responsibility of protecting others from infection through them. They are allowed no occupational contact with children, are forbidden to handle any food except for themselves and their immediate families, and their family members are protected by immunization against the disease.

### Federal Grant-in-Aid Funds For California, 1954-55

From the appropriation made by the Congress for the fiscal year beginning July 1, 1954, the following grant-in-aid funds were allocated to California:

	ALLOCATIONS TO CALIFORNIA		+Increase —Decrease
	1953-54	1954-55	
Tuberculosis control	\$241,300	\$262,900	+\$21,600
General health	529,500	523,600	—5,900
Cancer control	130,400	132,900	+2,500
Heart disease control	43,700	44,800	+1,100
Hospital construction	2,666,054	2,227,864	—\$438,190
Maternal and child health			
Fund A	283,860	291,298	+7,438
Fund B	125,202	127,763	+2,561
Crippled children			
Fund A	233,861	243,178	+9,317
Fund B	39,960	41,310	+1,350
Totals	\$4,298,637	\$4,895,611	+\$596,974

## First Report on Morbidity Survey Issued by Department

The first of a series of monthly reports to be issued by the State Department of Public Health on its current morbidity survey showed that an estimated 1,900,000 Californians were disabled for one or more days during June because of illness or injury — approximately 2 out of every 13 residents.

The state-wide morbidity survey was begun in May of this year, after nearly five years of planning and preliminary work, and will continue for a year. This is a "pioneer" effort, the first such state-wide survey of illness and disability to be undertaken in the Country. Health and welfare agencies will be very much interested in this first tabulation and the succeeding ones, for lack of information on the amount and distribution of illness and disability in the State has hampered their most effective planning.

The report showed that an estimated 720,000 Californians suffered colds or other acute upper respiratory diseases in June. Of these 340,000 were disabled for one or more days.

TABLE 1

### Persons Disabled by Illness or Injury— June, 1954

Illness or injury	Estimated number of persons per thousand	
	Disabled one or more days during month	Disabled on average day in month
All causes.....	153	59
Acute upper respiratory diseases.....	29	4
Acute gastro-intestinal disorders.....	5	0.4

TABLE 2

### Persons Kept From Major Activity— June, 1954

Group	Estimated number of persons per thousand in major activity group	
	Kept from major activity one or more days during month*	Disabled on average major activity day in month
Workers.....	65	16
Housewives.....	100	29

\* Proportion of workers kept from work on the average work day, and proportion of housewives kept from housework on the average day in the month.

An additional 270,000 persons suffered acute gastro-intestinal disorders, of which 60,000 were disabled for one or more days. Tabulations have not been completed on the remaining causes of disability, although preliminary figures disclose that a large proportion consisted of chronic disease.

Days of disability as counted in the survey include all days on which a person was confined to his bed or home, or otherwise kept from his usual activities because of illness or injury.

On the average, 59 of every 1,000 Californians were disabled daily; 4 of every 1,000 by colds and other acute upper respiratory diseases, and less than 1 per 1,000 by acute gastro-intestinal disorders.

Acute upper respiratory diseases are defined as colds, influenza and other acute conditions affecting the nose, throat and bronchial tubes. Acute gastro-intestinal disorders include dysentery, diarrhea, "food poisoning," "stomach flu" and "intestinal flu," and other disorders of the gastro-intestinal tract.

On the average each day, 16 out of every 1,000 workers were off the job because of illness or injury, while among housewives, a daily average of 29 of every 1,000 were kept from household duties.

The provisional estimates show by this and subsequent reports will be further defined as survey data is accumulated, spelling out in detail, the major and minor causes of sickness, how much time is lost from work because of rheumatism, heart disease and home accidents, what proportion of Californians go to a hospital each year and what kind and amount of illness occurs in the various occupational groups.

The information was obtained through personal interviews of a weekly sample of households throughout the State and the data for the June report were based on the combination of four weekly samples, comprising about 1,000 household interviews.

The sampling does not include persons in institutions, nonresidents nor persons living on military posts.

## Poliomyelitis Incidence Climbs At Markedly High Rate

The incidence of poliomyelitis in California has continued to rise at a markedly high rate since the start of the disease year in April.

Since April 1, and through July 31, there have been 1,125 reported cases of polio in the State, which surpasses the 976 cases reported for the same period during the 1948-49 epidemic year. However, while 712 of those cases in 1948-49 showed muscular weakness or paralysis, only 657, to date, have been classed as such this year.

For the week ending July 31, there were 218 cases of polio reported, of which 110, or 50.5 percent, showed muscular weakness or paralysis. During the same week a year ago there were 141 cases reported, of which 82, or 58 percent, showed muscular weakness or paralysis.

Currently, all but 11 of California's 58 counties have reported cases of polio. The bulk of the reported cases have come from 12 counties, accounting for 907, or 81 percent, of the total. Strongly out of line are Contra Costa and Kern Counties, with San Diego County running 20 cases behind last year.

### REPORTED CASES APRIL 1 - JULY 31

County	1954	1953
Los Angeles .....	414	312
Contra Costa .....	101	9
Alameda .....	61	30
Kern .....	59	9
Orange .....	49	43
San Diego .....	41	61
Santa Clara .....	36	25
San Mateo .....	33	14
San Bernardino .....	31	22
Fresno .....	31	18
Stanislaus .....	26	14
San Francisco .....	25	21

For painless needle injections for children, Dr. Ellen P. MacKenzie freezes a solution of a germ-killer; she next rubs the arm with an ice cube of it until the spot is temporarily anesthetized, then gives the needle. The freezing doesn't destroy the anti-septic properties of the germicide. The method works for anyone who is fearful about needles. Children say it doesn't hurt, come happily back for later injections, she wrote recently in the *Journal of Pediatrics*.—*Today's Health*, Vol. 32, No. 8.

## Berkeley Health Director Retires After 31 Years Service

Dr. Frank L. Kelly, City Health Director of Berkeley for 31 years, retired last month, closing a career in public health which began in 1915.

The 69-year-old physician was paid glowing tribute for his service to the city at a banquet attended by city officials and some 100 fellow workers.



FRANK L. KELLY, M.D.

Said Mayor Laurance L. Cross, "Dr. Kelly will be with us in all the healthy kids we have and the healthy city we will have for years to come." City Manager John Phillips invited the retiring official to return to dedicate the new \$150,000 city health building to be erected soon.

Dr. Kelly obtained his degrees from the University of California, including the A.B. degree in 1908, M.D. in 1912, M.S. in 1914 and a year later, the Doctor of Public Health degree. For 33 years he was lecturer and assistant professor of public health administration at the University. He retired from the University faculty two years ago.

## Smog Testing Stations Established For Bay Area Counties

Seven health departments in the San Francisco Bay area have met with State Health Department staff to discuss setting up air measurement stations to gain baseline data on air pollution. The plan discussed involved taking air samples five days weekly at from 10 to 15 permanent stations spread throughout the five counties represented. On days when smog conditions are critical, more extensive sampling will be done.

The sampling is to be done specifically to measure the oxidants in the air. Studies in Southern California have demonstrated that this single test appears to give a valuable index to conditions which cause eye irritation, damage to plants, and impaired visibility.

The health departments represented at the discussion include Santa Clara County, San Francisco City and County, San Mateo County, Alameda County, Contra Costa County, Oakland City and Alameda City. Representatives of these agencies met with the State Department of Public Health on July 28th to define their possible participation in the study. The State Department of Public Health would correlate the activities and in the early stage would supply the reagent used in the sampling and conducting the necessary laboratory tests. The local health departments would furnish the collecting equipment and personnel for the sampling, and at an early date assume the laboratory function as well.

Air sampling at fixed stations over a continuous and extended period should provide extremely valuable information about the pattern of air conditions geographically, seasonally, and during critical periods of air pollution. It should make possible the plotting of trends as air conditions in the Bay area change and provide health departments with information enabling them to interpret air pollution problems more precisely.

He is credited with organizing Berkeley's combined health service program by which one director heads and coordinates health services in both the community and the schools.

## State Hospital Advisory Council Allocates Funds for 14 Projects

The State Advisory Hospital Council recommended allocation of \$4,079,153 in state and federal funds for the construction of 14 hospital and public health center projects in a two-day hearing, July 27-28, in the auditorium of the San Francisco Health Department.

The State Department of Public Health, following Council recommendations, allocated federal funds totaling \$2,975,609 and state funds totaling \$1,103,544 for project construction. By classification, \$2,259,378 was allocated for construction of eight general hospital projects; \$177,000 for one mental hospital; \$276,040 for a tuberculosis hospital, and \$488,711 for construction of four health centers.

The approved projects for general hospitals were: St. Jude Hospital, Anaheim, \$646,040 in federal funds; Barstow Area Community Hospital, \$288,992 in state and federal funds; Desert Valley Hospital, Barstow, \$166,342 in federal funds; Inter-Community Hospital, Covina, \$283,650 in federal funds; Memorial Hospital, Torrance, \$191,418 in federal funds; Greater Bakersfield Hospital, \$157,437 in federal funds to supplement an allocation made in 1952; Mendocino County Hospital, Ukiah, \$481,636 in state and federal funds, and Fremont Hospital, Marysville, \$427,177 in federal funds.

In the tuberculosis hospital category Mendocino County, Ukiah, was allocated \$276,040 in state and federal funds. This unit will be a part of Mendocino's general hospital, giving that project state and federal funds totaling \$757,676. The single mental hospital allocation was to Santa Barbara County Hospital, Santa Barbara, \$177,000 in state and federal funds. The four public health centers granted funds were: Contra Costa County, Martinez, \$240,000; Kern County, Bakersfield, \$307,470; Los Angeles City, Southwest, \$243,120, and San Jose City, \$186,830, all in state and federal funds.

Anticipating that additional federal construction funds will be made available shortly for chronic disease hospital projects through the recent Wolverton Amendment to the Hospital



Survey and Construction Program, the Council deferred consideration of the three requests in that category—Monterey County Hospital, Salinas; Laguna Honda Home, San Francisco, and Westlake Hospital, Los Angeles.

Completion of the hospital projects will provide 504 additional general beds, 42 tuberculosis, and 28 mental hospital beds.

In instances where both state and federal funds are allocated, the total represents two-thirds of project costs. The Federal Government participates in one-third project costs when the State does not contribute. The State participates only in the construction of tax-supported institutions: city, county and hospital district projects.

The 14 projects selected by the council were chosen from a list of 80 applicants seeking some \$20,000,000 in federal funds and more than \$9,000,000 in state funds. Since the 1946 inception of the federal-state hospital construction program, 77 projects have been assisted, spending approximately \$17,250,000 on 55 general hospital projects; slightly under \$1,000,000 on three tuberculosis hospitals; \$235,000 on two mental hospitals; \$641,000 on four chronic disease hospitals, and \$928,000 on 13 public health centers.

### Agency Responsibilities in Disaster Delineated

At a recent meeting between representatives of the State Department of Public Health, the Pacific Area Red Cross, and the Medical and Health Services Division of the State Civil Defense Agency, a detailed statement was drawn up outlining the cooperative relations and responsibilities between these agencies in time of disaster.

This brings to completion various efforts in the past for these organizations to document their responsibilities to each other and to the public in case of natural disaster requiring emergency measures.

This statement of cooperative relationship between these agencies develops a plan for using the full resources of the state and local health departments and Red Cross chapters in a coordinated manner in time of

### Industrial Nursing Count Shows Increase for 1954

The upward trend in the number of nurses engaged in industrial nursing in California is continuing. As of January 1, 1954, the total number of nurses employed in industries was 849, according to a count recently completed by the Bureau of Public Health Nursing of the State Department of Public Health. The total number of industries employing nurses was 423. The following table shows the comparison of this year's figures with those of 1952, 1950 and 10 years ago:

Year	Industries	Nurses
1944 -----	204	837
1950 -----	368	618
1952 -----	397	760
1954 -----	423	849

The fact that the number of industries employing nurses has doubled since 1944, the peak of war production in this area, indicates an increasing awareness of the value of nursing services in industry.

As our population has risen in California so has the number of persons employed. The following table demonstrates the number of employed persons per industrial nurse and points out clearly the need for extension of industrial nursing service.

Year	Civilian Employed Population	Industrial Nurses	Ratio of Employees per nurse
1944 --	3,854,000	837	4,604
1950 --	4,202,000	618	6,799
1954 --	4,957,000 (1953)	849	5,839

The recommended standard is that there be one nurse for every 300 employees, two nurses for every 600 employees, three nurses for every 1,000 employees, and one nurse for each additional 1,000 persons employed.

disaster. Such a plan requires close predisaster working relationships.

The California Conference of Local Health Officers approved the statement in principle at their meeting in Los Angeles, May 13-14, with a resolution that it be studied through conference committees with reference to certain additional details which should be considered for agreement between local health officers and local Red Cross chapters.

### Radiological Health Courses Announced by PHS for 1954-55

In recognition of the increased use of radiation and the associated health protection problems, the Public Health Service, U. S. Department of Health, Education, and Welfare, conducts a radiological health training program at the Robert A. Taft Sanitary Engineering Center, Cincinnati, Ohio. The purpose of the program is to indoctrinate public health workers with the significance of ionizing radiations, the environmental and occupational hazards attendant on their use, and recommended procedures for minimizing such hazards.

The training program is tuition free and is designed primarily for professional personnel of State and local health departments, but a limited number of qualified applicants from other governmental agencies and industry will be welcome.

The following courses will be presented in 1954-55:

November 1-5 -----	Problems of Radioactivity in Waterworks
January 10-21 -----	Basic Course in Radiological Health
January 24- February 4 -----	Occupational Radiation Protection
March 7-10 -----	Radiation Hygiene-Preventive Medical Aspects
April 18-29 -----	Basic Course in Radiological Health
May 2-13 -----	Environmental Radiation Sanitation Course
May 16-20 -----	Problems of Radioactivity in Waterworks

For further information address:

Chief, Radiological Health Training Section, Robert A. Taft Sanitary Engineering Center, 4676 Columbia Parkway, Cincinnati 26, Ohio.

It is in public health more than any other field of human endeavor, be it of a professional, economic or artistic nature, that man is for the first time successfully adapting the creatures and environment of nature to himself and his welfare rather than submit himself to them.—Dr. J. J. Hanlon, (New Jersey State Department of Health, *Public Health News*, August, 1954).

## Public Health Positions

### Butte County

**Health Officer.** Salary, \$10,000 per year. Requires license to practice in the State of California. For information address Board of Supervisors, Oroville.

### Tulare County

**Health Officer.** Salary, \$8,700 to \$10,956. Beginning step to be determined by desired qualifications and experience. Requires license to practice in the State of California. For information address Tulare County Personnel Officer, Visalia.

### Fresno County

**Public Health Physician.** Salary, \$595 to \$743. Requires license to practice in the State of California. Work will be in the field of child and school health and communicable diseases. For further information write Robert D. Monlux, M.D., Health Officer, Fresno County Health Department, 515 South Cedar, Fresno 2.

### Placer County

**Director of Public Health Laboratory.** Salary, \$358 to \$436. Requires California license as public health bacteriologist and clinical laboratory technician. Experienced person may start above minimum. Public health laboratory work and clinical work of county hospital. One part-time assistant. Write to Ruth M. Moldenhauer, M.D., Director, Placer County Health Department, Auburn.

### City of Pasadena

**Public Health Nurse.** Salary, \$344 to \$419. Pasadena residence not required. Apply to Personnel Department, City Hall, Pasadena.

### San Luis Obispo County

**Public Health Nurse.** Salary, \$318 to \$382 (recruiting at \$333). Requires California public health nurse certificate. Generalized county program. Mileage or car provided. Write Civil Service Commission, 967 Osos Street, San Luis Obispo.

### State of California

**Sanitary Inspector.** Salary, \$325 to \$395. Application filing deadline is August 27th. Openings are in Northern California. Candidates must have valid certificates of registration as sanitarian to be eligible for appointment, but may take examination before securing registration. Applications available

at State Personnel Board offices in Sacramento, San Francisco and Los Angeles, or at local California Department of Employment offices, or State Department of Public Health, 760 Market Street, Room 744, San Francisco.

### City of Long Beach

**Sanitarian.** Salary, \$361 to \$439, effective September 1st.

**Public Health Nurse.** Salary, \$343 to \$417, effective September 1st.

**Junior Public Health Nurse.** Salary, \$284 to \$343, effective September 1st. Applicants for the positions listed above, if accepted for employment, will be required to pass a qualifying examination at a later date. Direct inquiries to I. D. Litwack, M.D., Health Officer, Department of Public Health, 2655 Pine Avenue, Long Beach 6.

### Kern County

**Public Health Nurses.** Salary, \$338 to \$412. Generalized program at the university training center. For additional information and application write to Miss Myona Morrison, Nursing Director, County Health Department, P. O. Box 907, Bakersfield.

### City of Oakland

**Sanitarian.** Salary, \$370 to \$430. California registration required, resident requirement waived. Filing deadline is August 27th, examination date, September 3d. For further information, write City Health Department, City Hall, Oakland.

### City of Santa Barbara

**Sanitarian.** Salary range \$325 to \$395. Applicants must possess a certificate as a Registered Sanitarian or be eligible to take registered sanitarian examination. For further information write Helen Hart, M.D., City Health Officer, Santa Barbara.

### City of Los Angeles

**Public Health Educator.** Salary, \$440 to \$545. Two positions open. Requires one year graduate study in public health education in accredited school of public health and two years professional experience, or an equivalent combination of training and experience. Residence in city waived. Filing deadline is 5 p.m., September 3d, \$1 filing fee required. Written examination will be held September 18th, in Los Angeles and other localities in the United States. Apply in person or by mail to Civil Service, Room 5, City Hall, Los Angeles.

## Sewage Disposal From U. S. Navy Establishments Considered

The State Department of Public Health has taken part in two recent meetings of agencies and persons concerned with the disposal of sewage to the waters of San Francisco Bay. Both meetings were called by Regional Water Pollution Board No. 2 to consider the effect on bay waters of discharge of raw sewage from U. S. naval establishments in these areas.

Raw sewage is discharged to San Francisco Bay from several U. S. Navy establishments. Most of the cities and state institutions in this area have provided sewage treatment facilities. If the clean-up of San Francisco Bay waters is to be completed, it is important that adequate sewage treatment also be provided at the naval installations. Local health departments, the Regional Water Pollution Control Board, and the State Department of Public Health have a common interest in this problem and have worked closely together to bring about needed corrections.

Representatives of local Bay area health departments attended these meetings and took part in the discussions. At the Vallejo meeting department staff presented the results of a survey of the problem of sewage disposal to Mare Island Straits which had been made by the Bureau of Sanitary Engineering at the request of the Solano County health officer.

One of every four childless couples treated at infertility clinics succeeds in having babies, reports Dr. Mary Steichen Calderone, medical director of the Planned Parenthood Federation of America. There are now 151 such clinics across the Nation, double those existing five years ago.—*Today's Health*, Vol. 32, No. 8.



